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Sep 5, 2002

DOCUMENT-IDENTIFIER: US 20020123919 A1

TITLE: Customer-oriented telecommunications data aggregation and analysis method and object oriented system

Summary of Invention Paragraph:

[0008] To date no one has completely effectively utilized these telecommunications resources. Typically the extent to which these resources are managed consists of shopping for the lowest rate plan possible. Returning to the early automobile industry for a moment, this is the equivalent of hiring workmen who would work for the least amount of compensation. Clearly this technique does not address the utilization of the resource. What is needed is a method or system that allows businesses to determine the utilization of their telecommunication resource. Only when the utilization is determined can companies alter their present utilization to more effectively utilize their telecommunications resource.

Detail Description Paragraph:

[0060] Referring now to FIG. 3, two other aspects of a telecommunications usage analysis system are depicted, namely a telecommunication rate optimization system and a rate telecommunication billing verification system. With respect to the rate optimization system, calculation of telecommunication billing costs are based on telecommunication usage data and a plurality of rate plans. A computer with a processor and memory, which stores the telecommunications usage data and the rate plans, may run an optimizing module which selects the one of the rate plans which would result in the lowest cost. This optimizing module utilizes an inference engine and sets of rating rules for selecting the lowest cost rate plan based on the rating rules. This rate optimization computer system is depicted as computer system 20 and includes rate optimization 24, rules 22, and rates & plans 23. With this system, customer companies may minimize the cost of telecommunications services by identifying plans that provide the same combination of services at the lowest rates. This system may be utilized by very large, medium, and small companies and also may be used by consumers.

Detail Description Paragraph:

[0062] For these alternative implementations of a telecommunications usage analysis system, a rules based system may be used with the rules specified from knowledge gained by rate optimization analysts. For example, two sets of rules may be developed, one for building the client's telecommunication profile and the other for identifying the rates and plans. The telecommunication profile defines the current needs of the client as for telecommunications services, which may be based on the number of sites of the customer, the number of services, the volume of data, call patterns, and total cost. After the telecommunications profile is built, then the profile is matched against existing rate plans. The rules specify how to evaluate each rate plan to see if or how well it matches the customer's profile. All rate plans that match are displayed with expected costs. As depicted in FIG. 4, rate optimization 20 requires rates and plans database 23 that has the possible rates and plans, including rates and plans for all services (local, long distance, data, and wireless). Regulations require all telecommunications providers to publish all of their rates and plans including contracts for specific companies, which are typically large companies.

Detail Description Paragraph:

[0063] Referring again to FIG. 3, a telecommunications usage analysis system provides billing analysis and supervision 10 in the form of a computer system for verifying telecommunications billing costs based on telecommunications usage data and a contracted rate plan. This system may include a computer with a processor and a memory for storing the telecommunications usage data, contractor rate plans, and billing costs. The system may further include software capable of verifying the billing costs based on the telecommunications usage data, the billing cost, and the rate plan. As depicted in FIG. 3, the system includes customer billing 14, customer

information database 15, customer information billing consolidation 16, savings and credit databases 12, and work flow tracking 13. The invoices for all sites the client receives are logged and tracked by the computer system of the present invention. A telecommunications usage analysis system identifies any missing invoices as well as any new invoices. A virtual invoice payment processing ("VIPPP") may consolidate payment processing via bill consolidation 16 and likewise the visual invoice service reporting ("VISR") can consolidate invoice reporting via billing consolidation 16 and additionally telecommunication cost analysis database ("TCAD") may track and analyze the costs associated with a client's telecommunication usage. TCAD may build upon the data captured in the network inventory composite ("NIC") or in the translation software by requiring direct access to the monthly costs that are billed by the vendors for services they provide. Billing data is acquired and entered into TCAD, for example by use of network assets, including the due date, the billing date, the services billed and the accounts under which they are billed.

Detail Description Paragraph:

[0078] The uniform database format of the present invention may be provided by XML/XSL using active server pages ASP to get the data from the database and to transform the data into XML. Scripting languages may be used for client-side validation and arithmetic operations. At this point in time, XML is established as a common mainframe standard method of data interchange for many e-commerce and e-business applications. Of course, the uniform database format utilized can be any format that is capable of being interpreted by the interacting computer systems. EDI or Electronic Data Interchange is a protocol that enables companies to electronically pass data from one system to another system regardless of the platforms of either system, which is also compatible with the present invention.

Detail Description Paragraph:

[0091] Cost aggregation criteria used to aggregate the telecommunications cost data may further include service cost data. The parameters which define the service cost data include, but are not limited to: service provider data, service type data, component data, and industry data. A business entity may compare its aggregated telecommunications cost data relating to its use of different service providers, i.e. AT&T's services may be compared to that of Sprint's services. A business entity may compare its aggregated telecommunications cost data relating to its use of different service types, i.e. dedicated-inbound lines. Telecommunications cost data may be compared to that of dedicated-outbound lines. A business entity may compare its aggregated telecommunications cost data relating to its use of different components, i.e. data circuits. Cost data may be compared to that of calling cards. A business entity may compare its aggregated telecommunications cost data relating to different industry sectors, i.e. the manufacturing industry. Cost data may be compared to that of the internet technology industry.

Detail Description Paragraph:

[0098] Aggregating data may additionally involve the process of averaging obtained data according to the usage aggregation criteria. For example, telco management service 107 of FIG. 1, when utilizing the present invention, may aggregate--by averaging--both all of the calls of business entity 100 that had a call duration (i.e., the telecommunications usage data) of at least ten minutes that were made using cell phones (i.e., the usage aggregation criteria) and all of the calls of business entity 100 that had a call duration of at least ten minutes that were made using calling cards. Business entity 100 may use these two telecommunications usage data aggregations to compare or to determine the average number of ten-minute calls that it had made.

Detail Description Paragraph:

[0102] Aggregating data may also involve the process of calculating the standard deviation of obtained data according to the usage aggregation criteria. For example, telco management service 107 of FIG. 1, when utilizing the present invention, might choose to aggregate--by calculating standard deviations--both all of the calls of business entity 100 that had a call duration (i.e., the telecommunications usage data) of at least ten minutes that were made using cell phones (i.e., the usage aggregation criteria) and all of the calls of business entity 100 that had a call duration of at least ten minutes that were made using calling cards. Business entity 100 may use these two telecommunications usage data aggregations in order to calculate the standard deviation of the number of ten-minute calls it had made.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: Appeal to the Board of Patent Appeals and Interferences

In re Application of: RICHARD C. GOWEN et al.

Group Art Unit: 2172

Serial No.: 09/825,436

Examiner: J. Corrielus

Filed: April 2, 2001

Our Customer ID: 22827

For: DECISION SUPPORT SYSTEMS
AND METHOD

Our Account No.: 04-1403

Attorney Ref.: SSM-10



Sir:

1. ☐ **NOTICE OF APPEAL:** Pursuant to 37 CFR 41.31, Applicant hereby appeals to the Board of Appeals from the decision dated ____ of the Examiner twice/finally rejecting claims ____.
2. ☒ **BRIEF** on appeal in this application pursuant to 37 CFR 41.37 is transmitted herewith (1 copy)
3. ☐ An **ORAL HEARING** is respectfully requested under 37 CFR 41.47 (due within one month after Examiner's Answer).
4. ☐ Reply Brief under 37 CFR 41.41(b) is transmitted herewith (1 copy).
5. ☐ "Small entity" verified statement filed: ☐ herewith ☐ previously.

6. **FEE CALCULATION:**

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(5 months \$2,160)

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